

COMPLETE LISTING OF THE CLAIMS

Claims 1-11 (canceled)

Claim 12 (previously presented): A substrate processing method comprising the steps of:
placing a substrate in a processing container;
supplying a processing gas into the processing container to establish, within the processing container, an atmosphere of the processing gas having a first pressure higher than atmospheric pressure;
generating a solvent vapor in a solvent vapor generator with fluid communication between the solvent vapor generator and the processing container being disconnected while monitoring, by using a sensor, the pressure of the solvent vapor in the solvent vapor generator;
comparing the pressure in the solvent vapor generator with pressure in the processing container supplied with the processing gas; and
based on the comparison result, connecting the fluid communication between the solvent vapor generator and the processing container, thereby supplying the solvent vapor from the solvent vapor generator into the processing container in which the atmosphere of the processing gas having the first pressure has been established, when the monitored pressure in the solvent vapor generator is higher than the pressure in the processing container supplied with the processing gas,
wherein the solvent vapor is water vapor, the solvent vapor generator being configured to heat water contained therein to generate water vapor, and wherein the processing gas is ozone gas.

Claim 13 (previously presented): A substrate processing method as claimed in Claim 12, wherein the step of monitoring the pressure in the solvent vapor generator is carried out by firstly measuring temperature of the solvent vapor in the solvent vapor generator using a temperature sensor and secondly calculating the pressure in the solvent vapor generator based on the measured temperature.

Claim 14 (previously presented): A substrate processing method as claimed in Claim 12, wherein the step of monitoring the pressure in the solvent vapor generator is carried out by firstly measuring temperature of a liquid solvent before vaporized in the solvent vapor generator using a temperature sensor and secondly calculating the pressure in the solvent vapor generator based on the measured temperature.

Claim 15 (canceled)

Claim 16 (previously presented): A substrate processing method of Claim 12, further comprising the step of regulating pressure of the solvent vapor before the solvent vapor is supplied into the processing container, to a second pressure higher than the first pressure of the processing gas in the processing container.

Claim 17 (canceled)

Claim 18 (previously presented): A substrate processing method as claimed in Claim 16, wherein the step of regulating pressure of the solvent vapor includes a step of discharging an amount of solvent vapor from a closed space filled with the solvent vapor to be supplied into the processing container in order to prevent the second pressure from exceeding a predetermined upper limit value.

Claims 19-29 (canceled)

Claim 30 (previously presented): A substrate processing method of Claim 12, wherein the step of monitoring the pressure in the solvent vapor generator is performed using a pressure sensor.

Claim 31 (previously presented): A substrate processing method of Claim 12, further comprising a step of monitoring the first pressure in the processing container, wherein, during the performance of the comparing step, the monitored first pressure in the processing container and the monitored pressure in the solvent vapor generator are compared.

Claim 32 (canceled)